

Remarks

Claims 1-30 were pending in the subject application. By this Amendment, claims 1 and 9 have been amended, and new claims 39-41 have been added. The undersigned avers that no new matter is introduced by this amendment. Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 1-30 and 39-41 are currently pending in the subject application. Favorable consideration of the pending claims is earnestly solicited.

The amendments to the claims have been made in an effort to lend greater clarity to the claimed subject matter and to expedite prosecution. These amendments should not be taken to indicate the applicants' agreement with, or acquiescence to, the rejections of record. Favorable consideration of the claims now presented, in view of the remarks and amendments set forth herein, is earnestly solicited.

Claims 1, 3, 9, 10 and 24-30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Blyler, Jr *et al.* (U.S. Patent No. 6,265,018), either alone or further in view of Blyler, Jr. *et al.* (U.S. Patent No. 6,254,808). The applicants respectfully traverse this ground for rejection. A *prima facie* case of obviousness has not been presented. Three criteria must be met to establish *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. Applicant respectfully traverses the rejection since the prior art does not provide any suggestion or motivation to modify the Blyler, Jr *et al.* ('018) reference and/or the Blyler, Jr. *et al.* ('808) reference to arrive at the subject invention as claimed in claims 1-30 and 39-41 and there is no reasonable expectation of success of such a modification. The Office Action states that the "Blyler, Jr. *et al.* ('018) reference is applied for reasons of record as set forth in paragraph 3 of the previous action and discloses the basic claimed process lacking essentially a clear disclosure of performing same in a continuous manner."

The Office Action then states "it is well within the skill level of the art to turn a batch operation into a continuous one." The applicants assert that there would be no suggestion or motivation, either in the ('018) and/or the ('808) references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the teachings of the ('018) reference in this

way. In particular, the graded index plastic optical fiber of the Blyler, Jr *et al.* reference is placed on a reel and then the reel is put in an oven to heat the fiber for diffusion of the additives (see column 4, lines 7-35). Moreover, the method involves "testing" the reeled fiber during the diffusion of the additives to monitor the refractive index profile of the fiber (related to the diffusion) via, for example, pulse dispersion test, differential mode delay test, or bit error rate test (see column 5, line 44 through column 6, line 5). This testing, or monitoring, of the index of refraction profile would seem to require access to the end(s) of the fiber, which would not be available during a continuous production of fiber.

The Office Action then notes that at the bottom of column 4 of the Blyler, Jr. *et al.* ('018) reference a reference is made to the ('808) reference, which teaches a continuous process. The applicants point out that the reference to the ('808) reference is made for the disclosure of apparatus 401 of Figure 4, an extrusion machine. Figure 4 of the ('018) reference shows the oven 403 and test set 404 separately.

The applicants respectfully traverse this grounds for rejection because the cited ('018) reference does not disclose or suggest the unique and advantageous method or apparatus claimed by the current applicant. Claim 1 has been amended to include "wherein heating said polymeric tube surrounded by the outer tubing comprises continuously passing said polymeric tube surrounded by the outer tubing through a heated enclosure". Accordingly, claim 1 is now directed to an embodiment the subject invention, as claimed in claims 1, 3, 9, 10, 24-30, and 39-41 that pertains to a continuous method of manufacturing a plastic optical transmission medium wherein heating said polymeric tube surrounded by the outer tubing comprises continuously passing said polymeric tube surrounded by the outer tubing through a heated enclosure. Support for this amendment can be found, at least, at page 3, lines 27-29; page 14, lines 14-17; page 15, lines 19-27; page 19, lines 1-2; page 22, lines 5-6, and Figures 2A and 3A. The continuous nature of the subject method results in, as shown in Figure 2A, the polymeric tube surrounded by the outer tubing continuously passing through the heated enclosure (or other heat source) for diffusion to occur (see page 19, lines 1-2). The addition of the limitation "wherein heating said polymeric tube surrounded by the outer tubing comprises continuously passing said polymeric tube surrounded by the outer tubing through a heated enclosure" is not necessary to differentiate the subject invention as claimed in amended claim 1 from the teachings of the Blyler, Jr *et al.* ('018)reference, but does further differentiate the subject

invention as claimed in amended claim 1 from the teachings of the ('018) reference, which teaches "block 102 draws the preform to the proper diameter for a step index plastic optical fiber, adds the buffer material to the step index plastic optical fiber, and places the step index plastic optical fiber on a reel . . . in block 103, the reel of step index optical fiber is placed in an area at ambient temperature, the oven is then heated until the optical fiber reaches an equilibrium temperature which is slightly less than the temperature required to place the step index plastic optical fiber in the high rate of diffusion state that causes a graded index plastic optical fiber to be formed." The applicant submits that the method taught by the Blyler, Jr *et al.* reference is a batch method rather than a continuous method. In particular, the graded index plastic optical fiber of the Blyler, Jr *et al.* reference is placed on a reel and then the reel is put in an oven to heat the fiber for diffusion of the additives (see column 4, lines 7-35). Moreover, the method involves "testing" the reeled fiber during the diffusion of the additives to monitor the refractive index profile of the fiber (related to the diffusion) via, for example, pulse dispersion test, differential mode delay test, or bit error rate test (see column 5, line 44 through column 6, line 5). This testing, or monitoring, of the index of refraction profile would seem to require access to the end(s) of the fiber, which would not be available during a continuous production of fiber. Accordingly, the applicant asserts that there is no motivation to modify the Blyler, Jr *et al.* reference as stated in the Office Action and there is no reasonable expectation of success of such a modification. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1, 3, 9, 10, 24-30, and 39-41 under 35 U.S.C. §103(a).

The applicant respectfully traverses this grounds for rejection because the cited ('808) reference does not disclose or suggest the subject invention as claimed in claims 1, 3, 9, 10, 24-30, and 39-41. In particular, the ('808) reference does not teach surrounding a polymeric tube with an outer tubing. Furthermore, there is no motivation to do so. Rather, the ('808) reference teaches diffusing a diffusible dopant in a diffusion section 22 (see column 4, lines 4-22). Accordingly, there is no need for heating after the fiber exits the exit die 26. More particularly, the ('808) reference does not teach diffusion after the fiber exits the exit die 26. Therefore, there would be no motivation to one skilled in the art to combine the teachings of the ('018) and ('808) references to arrive at the subject invention as claimed in claims 1, 3, 9, 10, 24-30, and 39-41.

Claims 2, 4-8, and 11-23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Blyler, Jr et al. in view of Koike *et al.*, either alone, or further in view of Blyler, Jr., *et al.* ('808) (see Abstract), for the reasons of record as set forth in paragraph 4 of the previous action and also set forth in paragraph 1. The applicant respectfully traverses this grounds for rejection. The previous Office Action states that Blyler, Jr et al. discloses the basic claimed process as set forth in paragraph 3, *supra*, the primary reference essentially lacking an explicit disclosure of using a non-polymerizing additive, the particular manner of diffusing the additive, refractive index relationships and polymeric materials for the concentric cylinders and additives used. Koike et al. -621 discloses making a graded index medium similar to that being made in the primary reference and teaches the use of a non-polymerizing additive, certain of the instant additives and polymeric materials for the concentric cylinders and steps and refractive indices used for the polymers to arrive at the desired refractive index gradient. It is submitted that all of these aspects are quite well known in the art and would have been obvious expedients in the process of Blyler, Jr et al. dependent on the exact optical (fiber) medium desired and use therefore.

In reference to claims 2, 4-8, and 11-23, the applicant respectfully traverses this grounds for rejection because the cited references alone, or in combination, do not disclose or suggest the unique and advantageous method or apparatus claimed by the current applicants. In particular, the limitations of the Blyler, Jr *et al.* ('018) reference and the Blyler, Jr. *et al.* ('808) reference have been discussed above with respect to the rejection of claim 1 from which claims 2, 4-8, and 11-23 depend. The Koike *et al.* reference does not cure such defects.

Therefore, a *prima facie* case of obviousness has not been presented. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection of claims 2, 4-8, and 11-23 under 35 U.S.C. §103(a).

In view of the foregoing remarks and the amendment above, the applicant believes that the currently pending claims are in condition for allowance, and such action is respectfully requested.

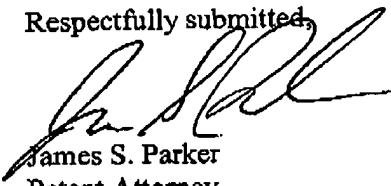
The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

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Applicant invites the Examiner to call the undersigned if clarification is needed on any aspect of this response, or if the Examiner believes there remains any valid ground upon which any claim in this application may be rejected subsequent to entrance of this amendment.

Respectfully submitted,



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